

Arizona's Waters

The Legacy of the Clean Water Act



When the *Cuyahoga River* caught fire in 1969, a result of years of industrial pollution, Americans were dismayed that a river could burn. In 1972, Congress responded with the Federal Water Pollution Control Act, or the Clean Water Act as we know it now. Discharges would be regulated through permits, standards for water quality would be established, and wastewater treatment would be required.



In the 1970s, Arizona had no burning rivers, no oil-slicked beaches as visible reminders of poor water quality. We didn't really know much about the quality of our rivers and lakes because we had not looked. Our known water pollution was less dramatic than the Cuyahoga, but it could still make you sick: bacteria from wastewater plants discharging directly into rivers and streams; and failing septic systems, polluting our groundwater and springs that feed our rivers.



photo courtesy of Tetra Tech, Inc.



Thirty years of permits and water quality standards, improved treatment technology, federal and state money to build new wastewater treatment plants, and a compliance and enforcement framework have cleaned up most of the water quality problems associated with wastewater treatment facilities and direct industrial discharges in Arizona. In 2002, bacteria are at greatly reduced levels than in 1976 when we first examined our waters. We have not closed a beach or recreation area because of bacteria in water since 1999.

Arizona's water is *cleaner* than it has been in decades. We have looked at more than half of our perennial rivers and streams and of those, only 15% don't meet water quality standards set for their use. That means 85% of the surveyed streams and lakes meet all water quality standards – for fishing, swimming, or other uses set for the water body. These waters are free of sediment, disease-causing bacteria, metals, and other pollutants in detrimental amounts.





Our largest *problem today*? Metals and sediment. Arizona is a big ore producing state. Ore bodies can naturally contribute metals to streams and groundwater springs recharging streams and they can be leached from rock or soil exposed through road cuts, mining or land development activities.



Another source of pollution harming our rivers and lakes is caused by runoff from lands that have agriculture or grazing activities, roads and parking lots, and the cumulative impacts of septic systems. These so-called “nonpoint sources” of pollution cause excessive phosphorus, nitrogen, pesticides, metals and petroleum products to enter Arizona’s waterways.

Mercury, once found in every thermometer in every medicine cabinet, is rarely used today. But its impact is still felt as Arizona now has several lakes where certain fish are not safe to eat because they have accumulated mercury in their tissue from contaminated sediments. Is the mercury in our lakes natural? Or from human sources? We don’t yet know, but will be exploring this water quality problem in the years to come.

It is true that the more you know, the more you realize you don't know. We have learned much about Arizona's water quality in the 30 years since the Clean Water Act provided important goals of achieving water clean enough in which to fish and swim. While we have a good understanding about the water quality for half of our rivers and streams, we don't know enough about the remaining half.

We are seeing new problems in 2002 that our counterparts in 1976 could never have imagined, such as the effect on fish and wildlife of pharmaceuticals discharged into our water through wastewater plant discharges, and the continuing effects of pesticides, banned from use decades ago.



Thirty years after passage of the Clean Water Act, Arizona's water is much cleaner and our citizens more aware of the importance of protecting, maintaining and restoring the quality of our rivers and lakes. Challenges remain, and difficult problems exist. Working together, we can accomplish much toward making the goals of the Clean Water Act a reality in Arizona.



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